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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,210	03/27/2001	Walter Weissman	JJD-0102	2484

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EXXONMOBIL RESEARCH AND ENGINEERING COMPANY
P.O. BOX 900
1545 ROUTE 22 EAST
ANNANDALE, NJ 08801-0900

EXAMINER

NGUYEN, TAM M

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 06/03/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/818,210

Applicant(s)

WEISSMAN ET AL.

Examiner

Tam M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 13-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The rejection of claims 6, 7, and 12 under 35 USC § 112 is withdrawn by the examiner in view of the amendment filed on March 4, 2003.

The rejection of claims 1-12 under 35 USC § 103 is withdrawn by the examiner in view of the amendment filed on March 4, 2003.

The objections to claim 1-12 and specification are withdrawn by the examiner in view of the amendment filed on March 4, 2003.

Since a new non-final Office Action follows, applicant's arguments will not be addressed

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12, drawn to a composition of fuels, classified in class 208, subclass 15+.
- II. Claims 13-17, 30-39, and 42-46, drawn to an apparatus system, classified in class 123, subclass 48+.
- III. Claims 18-29, 40, and 41, drawn to a method of operating an internal composition engine, classified in class 123, subclass 575+.

The inventions are distinct, each from the other because of the following reasons:

Inventions III and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice

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another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process which uses alcohol which has a different RON than the claimed fuel.

Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process of using that product. For example, the claimed product can be used in a flammable device which is not an internal combustion engine.

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, the different inventions have different functions and effects.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II and Group III, restriction for examination purposes as indicated is proper.

During a telephone conversation with Paul Purwin on November 18, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-12. Affirmation

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of this election must be made by applicant in replying to this Office action. Claims 13-46 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Ma et al. (WO-00/29731) or IiYama (JP-200179368) in view of Weissman et al. (WO-00/47697).

Both Ma and IiYama disclose an internal combustion engine wherein the engine employs 2 or more fuels which have different octane number. (See abstract for both references)

Both Ma and IiYama do not specifically disclose the physical and chemical characteristics of the fuels. However, Weissman discloses claims a fuels having RON of from 80-120 (see claim 9), a burn rate greater than isooctane and a laminar flame speed greater than isooctane (see entire patent). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of either Ma or IiYama by using a first fuel having RON greater than 100 and a second fuel having RON less than 90 *as taught by Weissman because both Ma and IiYama disclose that different fuels with different octane can be used in the internal engine. Consequently, when the fuels are operated in the internal combustion engine, it would have a CR as claimed.*

Both Ma and IiYama do not specifically disclose the fuels include a third fuel having a RON between the first and second fuel. However, Ma discloses that all of the fuels have different RON. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Ma by utilizing a third fuel

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having a RON between the first and second fuel because one of skill in the art would use a third fuel having a RON different from the first and second fuels including the third fuel having the claimed RON between the first and second fuel. Since the modified fuels of Ma and LiYama are similar to the claimed admixture, it would be expected that the modified fuels of Ma and LiYama would allow engine operation at or about MBT as claimed.

Weissman does not disclose the amount of aromatics in the fuels as claimed. However, Weissman discloses that it is important of the invention is a fuel comprising an effective amount of at least one species having a laminar flame speed greater than isooctane's laminar flame speed (see page 2). Therefore, it would have obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Weissman by using a base fuel having the claimed amount of aromatics because the amount of aromatics in the Weissman fuel is not crucial, but the amount of species having a laminar flame speed greater than isooctane's laminar flame speed.

Weissman also does not disclose that the concentration of sulfur in the second fuel is lower than the concentration of sulfur in the first fuel. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Ma/Weissman or LiYama/Weissman because by using the claimed concentration of sulfur in the first and second fuel because the total amount sulfur in the blend fuel is important and how different amount of sulfur in each fuel is not a critical. Therefore, it would be expected that the results be the same or similar when using a blend fuel comprising a first fuel having a concentration of sulfur higher than the concentration of sulfur in the second fuel or comprising a

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second fuel having the concentration of sulfur higher than the concentration of sulfur in the first fuel.

Response to Arguments

The argument that Group III should be examined along with Group I because Group III claims are directed to the method of using the product of Group I claims and the product of the group I claims are for use as an internal combustion engine having a CR of 11 or more is noted. However, the argument is not persuasive because claim 1 is directed to a composition and the limitation "internal combustion engine having a CR of 11 or more" in claim 1 of Group I is a statement of ultimate intended utility. Therefore, the examiner maintains that the search required for Group I is not required for Group III because the composition in Group I does not need to be used in an internal combustion.

The requirement is still deemed proper and is therefore made FINAL.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (703) 305-7715. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tam M. Nguyen
Examiner
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Tam Nguyen/ TN
June 1, 2003